## REMARKS

Claims 3–18 are pending in this application, of which Claims 3 and 11 are the base claims. Claims 3–18 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,273,905 ("Muller"). Applicants respectfully request that the § 103(a) rejection be withdrawn.

### Summary of Embodiments of Applicants' Invention

An example embodiment of Applicants' invention is described below to highlight some aspects of the invention. The embodiment is described primarily in Applicants' specification from page 9, line 8, to page 13, line 19, and in Figures 5, 6, and 11A. The description below is merely an example of one of many embodiments that fall within the scope of Applicants' claims and is provided for the purpose of highlighting some aspects of Applicants' invention.

Applicants' Figure 5 shows an embodiment in the form of a dispensing assembly 500 that dispenses liquids from cartridge pumps CP into slide cavities in slide frames 510. The slide frames 510, which sit on a slide rotor 504, each hold several microscope slides in slide positions 512a–512e, as shown in Figure 6. A reagent rotor 506 above the slide rotor 504 carries the cartridge pumps CP on arcuate cartridge frames 534. The slide rotor 504 and the reagent rotor 506 each rotate independently on an assembly base 502 (i.e., the slide cavities and cartridge pumps are decoupled), allowing a particular cartridge pump CP to be aligned over a particular slide cavity. When the cartridge pump CP is aligned over the selected slide cavity, a dispensing station DP actuates the cartridge pump CP, causing liquid to drip (i.e., fall from above) from an orifice of the cartridge pump into the slide cavity.

Because the slide frames 510 and arcuate cartridge frames 534 can rotate about the assembly base 502, different combinations of cartridge pumps CP and slides can be positioned next to the dispensing station 508. The relative motion of the slide cavities and cartridge pumps CP (and cartridge pump orifices) allows the dispensing assembly 500 to fill a particular slide cavity with liquids from different cartridge pumps CP. The dispensing assembly 500 can also fill different slide cavities with liquids from the same cartridge pump CP or fill each of a set of slide cavities with a combination of liquids from each of a set of cartridge pumps CP.

The dispensing assembly 500 also includes a liquid aspirator comprising an extendable vacuum hose 544 that sucks reagent out of a particular slide cavity and into a vacuum bottle 572, as shown in FIG. 11A. Because the vacuum hose 544 is not coupled to the slide cavity, the slide rotor 504 can rotate to align a particular slide cavity with the aspirator. Once the slide cavity is aligned with the aspirator, a vacuum hose transport mechanism 570 brings the end of the vacuum hose 544 in contact with the slide cavity. The vacuum hose 544 aspirates liquid from the cavity and then retracts to allow a new slide cavity to rotate into position.

Summary of Embodiments of Muller

Muller discloses an apparatus for sequential multi-step processing of slide surface portions. Muller's FIG 20 illustrates an apparatus 111 capable of dispensing fluid from a set of reservoirs R1–R11 to a single processing station 112, which may be a slide processing station. A 12-position rotary valve 129 connects the reservoirs R1–R11 with a station input reservoir 116, which connects, in turn, to the processing station 112 via a line 114. In operation, the rotary valve is positioned (rotated) to allow liquid to flow from a specified reservoir (e.g., R1) to the station input reservoir 116 (see Muller, col. 32, line 57, to col. 36, line 38). After the station input reservoir 116 is charged with fluid from reservoir R1, the fluid is discharged from the station input reservoir 116 into the processing station 112.

Muller's FIG. 18 shows the station input reservoir 116 in more detail. Lines 119 and 122 convey coolant through the station input reservoir 116 to keep the liquid in the station input reservoir 116 at a specified temperature. When the rotary valve 129 is positioned appropriately, "liquid can flow successfully from such an associated reservoir (in the present example, reservoir R1) through ... conduit 133 into reservoir 116" (Muller, col. 32, lines 8–11). Pressurizing gas flows through conduit 132 to control the flow of liquid into the station input reservoir 116. Liquid flows out of the charged station input reservoir 116 to the processing station 112 via a third conduit 114.

Muller also discloses flowing process fluids into and out of a processing chamber of the processing station 112, where "the removal is achievable either by suction ... or by flowing a washing fluid ... through such chamber" (Muller, col. 66, lines 54–57). For the apparatus 140 shown in Muller's FIG. 21, "these fluids first pass through a station delivery reservoir 116 before entering the processing chamber 112" (Muller, col. 67, lines 26–28). As shown in FIG. 21, the

station delivery reservoirs 116 are coupled to respective processing chambers 112 via respective conduits 114, fixing the positions of the reservoirs 116 relative to the processing chambers 112.

Rejections Under 35 U.S.C. § 103(a)

Claims 3–18 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Muller. In particular, the Office Action states that Muller teaches microprocessor control of the movement of the sample to the chambers and liquid dispensers including orifices that dispense liquid from above. The Office Action further states that it would have been within the skill in the art to modify Muller by adding a plurality of slide mounting structures in fluid communication with the reservoirs R1–R11 through valve 129 to achieve the expected result of processing more slides simultaneously.

Applicants submit that Muller does not disclose, "a liquid dispenser including an orifice decoupled from each [slide] cavity from which liquid is dispensed from above into each cavity," as recited in Claim 1. The instant Office Action states that Muller's station input reservoir 116 is filled "from above" via conduits 132 and 133. As described above, however, Muller's station input reservoir 116 is not a slide cavity—it is a reservoir situated between reservoirs R1–R11 and the processing station 112. Because the station input reservoir 116 is not a slide cavity, the conduits 132 and 133 do not read on the limitation of Applicants' Claim 1 that recites, "an orifice ... from which liquid is dispensed from above into each cavity."

In addition, Applicants submit that Muller does not disclose orifices and slide cavities "mounted on separate structures that provide relative movement between the orifice and each cavity" as asserted in the instant Office Action. Instead, Muller discloses a rotary valve 129 that can be rotated to connect the station input reservoir 116 with any of reservoirs R1–R11. In other words, the valve 129 provides a connection between the station input reservoir 116 and reservoirs R1–R11, not an orifice and slide cavities. As a result, Muller's valve 129 does not provide relative movement between an orifice and each slide cavity as recited in Applicants' Claim 1, much less microprocessor control over such relative movement.

Applicants further submit that Muller does not disclose a liquid aspirator decoupled from each slide cavity as recited in Applicants' Claim 3. Although Muller discloses sucking process fluids out of chambers in a processing station using a station delivery reservoir, Muller's

processing station is fixedly coupled to the station delivery reservoir. In contrast, the liquid aspirator of Applicants' Claim 3 is decoupled from the slide cavities.

Muller, either by itself or with additional slide mounting structures, does not teach the following limitations of Applicants' Claim 3: (1) a liquid dispenser with an orifice that dispenses liquid from above into a slide cavity; (2) orifice and slide cavities that can move relative to each other under microprocessor control; and (3) a liquid aspirator decoupled from each slide cavity. Because Muller fails to teach all the elements of Applicants' Claim 3 by itself or with additional slide mounting structures, Muller does not make Applicant's Claim 3 obvious. Because Applicants' Claim 11 is a corresponding method claim of Claim 3, Applicants' Claim 11 is non-obvious over Muller for at least the above reasons. By extension, Claims 4–10 and 18, which depend from Claim 3, and Claims 12–17, which depend from Claim 11, are non-obvious over Muller for at least the above reasons as well. Accordingly, Applicants respectfully request withdrawal of the rejection of Claims 3–18 under 35 U.S.C. § 103(a).

Moreover, Applicants' dependent Claims 10, 17, and 18 recite additional limitations not disclosed by Muller. For example, Applicants' Claim 10 recites that the liquid aspirator includes a vacuum bottle, vacuum hose, and vacuum hose transport mechanism "for bringing the end of the vacuum hose to the selected cavity." In contrast, Muller discloses "a processing station module ... formed into a ... removable station unit which is preferably provided with suitable quick connect/disconnect terminal connectors for ... fluidic supply" (Muller, col. 4, lines 39–44). Muller's quick connect/disconnect terminal connectors couple the removable station unit to the processing station. They do not form a vacuum hose transport means that, as part of the liquid aspirator, remains decoupled from the slide cavities. Accordingly, Muller does not teach all the elements of Claim 10.

**Information Disclosure Statement**

An Information Disclosure Statement (IDS) is being filed concurrently herewith. Entry of the IDS is respectfully requested.

## CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

By _____
James M. Smith
Registration No. 28,043
Telephone: (978) 341-0036
Facsimile: (978) 341-0136

Concord, MA 01742-9133
Date: 11/14/8